DOCUMENT RESUME

ED 397 298 CE 072 183

TITLE	Mississippi Curriculum Framework for Respiratory Care Technology Programs (CIP: 51.0908--Respiratory Therapy Technology). Postsecondary Programs.
INSTITUTION	Mississippi Research and Curriculum Unit for Vocational and Technical Education, State College.
SPONS AGENCY	Mississippi State Dept. of Education, Jackson. Office of Vocational and Technical Education.
PUB DATE	1 Aug 95
NOTE	67p.; For related documents, see CE 072 162-231.
PUB TYPE	Guides - Classroom Use - Teaching Guides (For Teacher) (052)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	Allied Health Occupations Education; Behavioral Objectives; *Cardiovascular System; Community Colleges; Competence; *Competency Based Education; Core Curriculum; Educational Equipment; Leadership; *Respiratory Therapy; State Curriculum Guides; Statewide Planning; Technical Institutes; Two Year Colleges
IDENTIFIERS	Mississippi

ABSTRACT

This document, which is intended for use by community and junior colleges throughout Mississippi, contains curriculum frameworks for the course sequences in the respiratory care technology program. Presented in the introductory section are a description of the program and suggested course sequence. Section I lists baseline competencies, and section II consists of outlines for each of the following courses in the sequence: cardiopulmonary anatomy and physiology; patient assessment and planning; respiratory care science; clinical practice I; respiratory care pharmacology; respiratory care technology (RCT) I; clinical practice II; RCT II; pulmonary function testing; RCT III; cardiopulmonary pathology; clinical practice III; respiratory care seminar; clinical practice IV; neonatal and pediatrics management; a related vocational-technical course--introduction to computers; and academic courses in anatomy and physiology I, principles of chemistry I, anatomy and physiology II, and principles of chemistry II. Each course outline contains some/all of the following: course name and abbreviation; course classification; course description; prerequisites; and competencies and suggested objectives. Recommended tools and equipment are listed in section III. Appended are lists of related academic topics and workplace skills for the 21st century and student competency profiles for both courses. (KC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 397 298

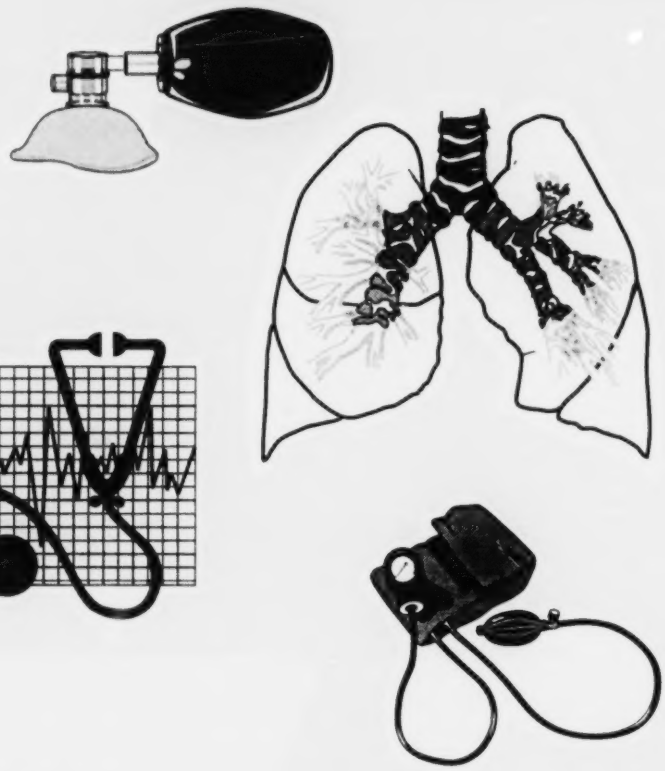
Mississippi Curriculum Framework for Respiratory Care Technology

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

R Lowe Miller

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."



CE072183

Postsecondary
Vocational and Technical Education
1995

BEST COPY AVAILABLE

MISSISSIPPI

CURRICULUM FRAMEWORK

FOR

RESPIRATORY CARE TECHNOLOGY PROGRAMS

(CIP: 51.0908 - Respiratory Therapy Technology)

Direct Inquiries to:

Program Coordinator
Allied Health and Related Technology
Office of Vocational and Technical Education
Mississippi Department of Education
P.O. Box 771
Jackson, MS 39205
(601) 359-3461

For copies of this publication, contact:

Research and Curriculum Unit
P. O. Drawer DX
Mississippi State, MS 39762
(601) 325-2510

Published by the:

Office of Vocational and Technical Education
Mississippi Department of Education
Jackson, Mississippi

Research and Curriculum Unit for Vocational and Technical Education
Mississippi State University
Mississippi State, Mississippi

1995

Mississippi State University does not discriminate on the basis of race, color, religion, national origin, sex, age, handicap/disability, or veteran status.

FOREWORD

In order to survive in today's global economy, businesses and industries have had to adopt new practices and procedures. Total quality management, statistical process control, participatory management, and other concepts of high performance work organizations are practices by which successful companies survive. Employers now expect their employees to be able to read, write, and communicate effectively; solve problems and make decisions; and interact with the technologies that are prevalent in today's workplace. Vocational-technical education programs must also adopt these practices in order to provide graduates who can enter and advance in the changing work world.

The curriculum framework in this document reflect these changes in the workplace and a number of other factors that impact on local vocational-technical programs. Federal and state legislation calls for articulation between high school and community college programs, integration of academic and vocational skills, and the development of sequential courses of study that provide students with the optimum educational path for achieving successful employment. National skills standards, developed by industry groups and sponsored by the U. S. Departments of Education and Labor, provide vocational educators with the expectations of employers across the United States. All of these factors are reflected in the framework found in this document.

Each postsecondary program of instruction consists of a program description and a suggested sequence of courses which focus on the development of occupational competencies. Each vocational-technical course in this sequence has been written using a common format which includes the following components:

- Course Name - A common name that will be used by all community/junior colleges in reporting students.
- Course Abbreviation - A common abbreviation that will be used by all community/junior colleges in reporting students.
- Classification - Courses may be classified as:
  - Vocational-technical core - A required vocational-technical course for all students.
  - Vocational-technical elective - An elective vocational-technical course.
  - Related academic course - An academic course which provides academic skills and knowledge directly related to the program area.
  - Academic core - An academic course which is required as part of the requirements for an Associate degree.
- Description - A short narrative which includes the major purpose(s) of the course and the recommended number of hours of lecture and laboratory activities to be conducted each week during a regular semester.

- Prerequisites - A listing of any prerequisite courses that must be taken prior to or on enrollment in the course.
- Competencies and Suggested Objectives - A listing of the competencies (major concepts and performances) and of the suggested student objectives that will enable students to demonstrate mastery of these competencies.

The following guidelines were used in developing the program(s) in this document and should be considered in compiling and revising course syllabi and daily lesson plans at the local level:

- The content of the courses in this document reflects approximately 75 percent of the time allocated to each course. For example, in a four semester hour course consisting of 30 hours lecture and 120 hours of laboratory activities, approximately 22 hours of lecture and 90 hours of lab should be taken by the competencies and suggested objectives identified in the course framework. The remaining 25 percent of each course should be developed at the local district level and may reflect:
  - Additional competencies and objectives within the course related to topics not found in the State framework, including activities related to specific needs of industries in the community college district.
  - Activities which develop a higher level of mastery on the existing competencies and suggested objectives.
  - Activities and instruction related to new technologies and concepts that were not prevalent at the time the current framework was developed/revised.
  - Activities which implement components of the Mississippi Tech Prep initiative, including integration of academic and vocational-technical skills and coursework, school-to-work transition activities, and articulation of secondary and postsecondary vocational-technical programs.
  - Individualized learning activities, including worksite learning activities, to better prepare individuals in the courses for their chosen occupational area.

- Sequencing of the course within a program is left to the discretion of the local district. Naturally, foundation courses related to topics such as safety, tool and equipment usage, and other fundamental skills should be taught first. Other courses related to specific skill areas and related academics, however, may be sequenced to take advantage of seasonal and climatic conditions, resources located outside of the school, and other factors.

- Programs that offer an Associate of Applied Science degree must include a minimum 15 semester credit hour academic core. Specific courses to be taken within this core are to be determined by the local district. Minimum academic core courses are as follows:

- 3 semester credit hours Math/Science Elective
- 3 semester credit hours Written Communications Elective
- 3 semester credit hours Oral Communications Elective
- 3 semester credit hours Humanities/Fine Arts Elective
- 3 semester credit hours Social/Behavioral Science Elective

It is recommended that courses in the academic core be spaced out over the entire length of the program, so that students complete some academic and vocational-technical courses each semester. Each community/junior college has the discretion to select the actual courses that are required to meet this academic core requirement.

- In instances where secondary programs are directly related to community and junior college programs, competencies and suggested objectives from the high school programs are listed as Baseline Competencies. These competencies and objectives reflect skills and knowledge that are directly related to the community and junior college vocational-technical program. In adopting the curriculum framework, each community and junior college is asked to give assurances that:
  - students who can demonstrate mastery of the Baseline Competencies do not receive duplicate instruction, and
  - students who cannot demonstrate mastery of this content will be given the opportunity to do so.

- The roles of the Baseline Competencies are to:
  - Assist community/junior college personnel in developing articulation agreements with high schools, and
  - Ensure that all community and junior college courses provide a higher level of instruction than their secondary counterparts

- The Baseline Competencies may be taught as special "Introduction" courses for 3-6 semester hours of institutional credit which will not count toward Associate degree requirements. Community and junior colleges may choose to integrate the Baseline Competencies into ongoing courses in lieu of offering the "Introduction" courses or may offer the competencies through special projects or individualized instruction methods.

- Technical elective courses have been included to allow community colleges and students to customize programs to meet the needs of industries and employers in their area.

ACKNOWLEDEMENTS

Review Team

Lee King, Pearl River Community College, Hattiesburg
Pat Matthews, Hinds Community College, Jackson
Rombulus Matthews, MS-GCCC, Jackson Co., Gautier
Gerald Millione, Copiah-Lincoln Community College, Natchez
J. Harold Plunkett, Itawamba Community College, Fulton

Academic Instructor

Phil Broome, Copiah-Lincoln Community College, Wesson

RCU Staff

Darla K. Haines, Ph.D., Research and Curriculum Specialist

OVTE Staff

Sandra Bates, R.N., State Supervisor, Allied Health and Related Technology

Reviewers

Educators:

Richard Waltman	Beverly Prince	Patricia Matthews
Gerald Millione	Quintina Wiggianta	Therese Winschel
Jon Harold	Johnny Avy	Diane Sylvester
Judie A. Scott	Rombulus Matthew	Mary A. Jones
John Reeves	Lynne Turner	Cyndi Stubbs
Barbara Young		

Practitioners:

J. C. Smith	Linda Love	Jeanette Alain
Deborah Ann Davinger	Brenda Robertson	David Knight
Kathy Hogan	Betty Casly	Pamela C. Nelson
Connie Hawk	Gail Caresor	Donavan Knight
Jeaair Duke		

Technical Committee

Judy Stanford
June Cotton
Sarah C. Sawyer
Monica Stennis
Barbara Hayman

Mike Higginbotham
Jim Tesar
Rebecca Champion
Linda Barrett

Sandra Freeman
Deborah Rogers
Lynette Miller
Sharon Burch

TABLE OF CONTENTS

Page

FOREWORD iii

ACKNOWLEDGEMENTS vii

RESPIRATORY CARE TECHNOLOGY PROGRAM DESCRIPTION 1

RESPIRATORY CARE TECHNOLOGY SUGGESTED COURSE SEQUENCE 2

SECTION I: BASELINE COMPETENCIES 5

SECTION II: CURRICULUM GUIDE FOR RESPIRATORY CARE TECHNOLOGY 11

Respiratory Care Technology Courses 13
Cardiopulmonary Anatomy and Physiology 15
Patient Assessment and Planning 16
Respiratory Care Science 17
Clinical Practice I 19
Respiratory Care Pharmacology 20
Respiratory Care Technology I 21
Clinical Practice II 23
Respiratory Care Technology II 24
Pulmonary Function Testing (PFT) 25
Respiratory Care Technology III 26
Cardiopulmonary Pathology 28
Clinical Practice III 29
Respiratory Care Seminar 30
Clinical Practice IV 31
Neonatal/Pediatrics Management 32

Related Vocational-Technical Courses 33
Introduction to Computers 35

Related Academic Courses 37
Anatomy and Physiology I 39
Principles of Chemistry I 40
Anatomy and Physiology II 41
Principles of Chemistry II 42

SECTION III: RECOMMENDED TOOLS AND EQUIPMENT 43

APPENDIX A: RELATED ACADEMIC TOPICS A-1

APPENDIX B: WORKPLACE SKILLS B-1

APPENDIX C: STUDENT COMPETENCY PROFILE C-1

RESPIRATORY CARE TECHNOLOGY

PROGRAM DESCRIPTION

The Respiratory Care Technology Programs prepare the individual to become a Respiratory Care Practitioner. Respiratory Care Practitioners are responsible for initiating cardiopulmonary resuscitation along with the setup and monitoring of life support systems. In addition, Respiratory Care Practitioners provide treatment for heart and lung disorders by administering inhalation treatments, oxygen, and drugs.

These individuals are also trained to perform diagnostic tests that aid in determining the presence and extent of cardiopulmonary disease. Respiratory Care Practitioners conduct pulmonary function studies, obtain and analyze blood samples, and perform electrocardiograms, exercise stress tests, and sleep studies.

Upon completion of the required courses for Entry Level Practitioners, candidates may take the National Board for Respiratory Care Entry Level Examination (CRTT). Upon completion of the required courses for Advanced Level Practitioners, candidates may take the NBRC Advanced Level Examination (RRT).

RESPIRATORY CARE TECHNOLOGY

SUGGESTED COURSE SEQUENCE*

Baseline Competencies for Respiratory Care Technology**

Prerequisites:
- Anatomy and Physiology I (BIO 1514)
- Anatomy and Physiology II (BIO 1524)

FIRST YEAR (Respiratory Care Technician)

4 sch	Natural Science/Math Elective†	3 sch	Written Communications Elective
3 sch	Cardiopulmonary Anatomy and Physiology (RCT 1313)	6 sch	Clinical Practice I (RCT 1516)
3 sch	Patient Assessment and Planning (RCT 1213)	2 sch	Respiratory Care Pharmacology (RCT 1612)
4 sch	Respiratory Care Science (RCT 1114)	6 sch	Respiratory Care Technology I (RCT 1416)
14 sch		17 sch	

SUMMER TERM

3 sch	Clinical Practice II (RCT 1523)
4 sch	Respiratory Care Technology II (RCT 1424)
2 sch	Pulmonary Function Testing (RCT 1322)
3 sch	Humanities/Fine Arts Elective
12 sch	

SECOND YEAR (Respiratory Therapist)

3 sch	Oral Communications Elective	3 sch	Behavioral/Social Science Elective
4 sch	Respiratory Care Technology III (RCT 2434)	2 sch	Respiratory Care Seminar (RCT 2712)
3 sch	Cardiopulmonary Pathology (RCT 2333)	8 sch	Clinical Practice IV (RCT 2548)
2 sch	Clinical Practice III (RCT 2532)	3 sch	Neonatal/Pediatrics Management (RCT 2613)
12 sch		16 sch	

* Students who lack entry level skills in math, English, science, etc., will be provided related studies.

** Baseline competencies are taken from the high school Allied Health program. Students who can document mastery of these competencies should not receive duplicate instruction. Students who cannot demonstrate mastery will be required to do so.

† APPROVED MATH/SCIENCE ELECTIVES
Introduction to Computers (CPT 1114)
Principles of Chemistry I (CHE 1314)
Principles of Chemistry II (CHE 1324)
General Chemistry I (CHE 1214)

SECTION I:

BASELINE COMPETENCIES

BASELINE COMPETENCIES FOR POSTSECONDARY RESPIRATORY CARE TECHNOLOGY PROGRAMS

The following competencies and suggested objectives are taken from the publication *Mississippi Curriculum Framework for Secondary Allied Health*. These competencies and objectives represent the baseline for entrance into the postsecondary Respiratory Care Technology courses. Students enrolled in postsecondary courses should either (1) have documented mastery of these competencies, or (2) be provided with these competencies before studying the advanced competencies in the Respiratory Care Technology program.

Baseline competencies may be integrated into existing courses in the curriculum or taught as special "Introduction" courses. The "Introduction" courses may be taught for up to six semester hours of institutional credit and may be divided into two courses. If the Baseline Competencies are to be taught as "Introduction" courses, each course should be at least 3 credit hours. The following course number(s) and description should be used:

Course Name(s): Introduction to Respiratory Care Technology, Introduction to Respiratory Care Technology I, or Introduction to Respiratory Care Technology II

Course Abbreviation(s): RCT 100(3-6), RCT 1013, RCT 1023

Classification: Vocational-Technical Core

Description: These courses contain the baseline competencies and suggested objectives from the high school Allied Health curriculum which directly relate to the community college Respiratory Care Technology program. The courses are designed for students entering the community college who have had no previous training or documented experience in the field. (3-6 semester hours based upon existing skills for each student. May be divided into 2 courses for a maximum total of 6 hours of institutional credit.)

Competencies and Suggested Objectives:

1. Review material related to course and professional organizations.
   a. Identify student and course expectations.
   b. Demonstrate effective teamwork skills.
   Related Academic Topics (See Appendix A): C1, C6
   Workplace Skills (See Appendix B): WP2
2. Apply communications in health care.
   a. Utilize effective communication skills.
   Related Academic Topics (See Appendix A): C1, C6
   Workplace Skills (See Appendix B): WP2, WP3

3. Develop individual career awareness in the health care industry.
   a. Describe careers in direct health care.
   b. Describe careers in the therapeutic area.
   Related Academic Topics (See Appendix A): C1, C6
   Workplace Skills (See Appendix B): WP2
4. Explain professional ethics and legal responsibility.
   a. Explain professional ethics and legal responsibility including negligence, malpractice, and health occupation code of conduct.
   b. Define confidentiality.
   c. Identify and explain the rules of ethics.
   d. Identify and explain torts.
   Related Academic Topics (See Appendix A): C1, C4, C6
   Workplace Skills (See Appendix B): WP2, WP3
5. Explain client's rights.
   a. Report improper care to include negligence, unethical conduct, etc.
   b. Report abuse to include physical, verbal, and psychological.
   c. Identify ways to promote client's rights and privacy.
   d. Respect client.
   e. Define living wills, advance directives, and organ donations.
   Related Academic Topics (See Appendix A): C1, C6
   Workplace Skills (See Appendix B): WP3
6. Utilize universal precautions.
   a. Explain importance of universal precautions in life practices and health care.
   b. Explain the state and federal government's role in universal precautions.
   c. Relate universal precautions to the transmission of infectious diseases including HIV, AIDS, HBV, and TB.
   d. Demonstrate hand-washing technique.
   e. Demonstrate donning and removing clean gloves.
   Related Academic Topics (See Appendix A): C1, C4, C6, S8
   Workplace Skills (See Appendix B): WP2
7. Recognize safety procedures and policies.
   a. Describe basic safety procedures.
   b. Describe accident prevention methods and disaster plans.
   c. Provide a safe environment.
   d. Provide a clean environment.
   e. Follow facility policies.
   Related Academic Topics (See Appendix A): C1, C4, C6, S8
   Workplace Skills (See Appendix B): WP2
8. Perform basic safety procedures.
   a. Assist with basic emergency procedures to include falls, seizures, and fainting.
   b. Attain Class C certification in cardiopulmonary resuscitation.
   c. Demonstrate procedures of first aid for sudden illness and accidents.

d. Demonstrate body mechanics.
e. Demonstrate and/or explain correct procedures for transfer equipment including wheelchair, stretcher, and mechanical/pneumatic lift.

Related Academic Topics (See Appendix A): C1, C4, C6, S8
Workplace Skills (See Appendix B): WP2, WP6

9. Recognize and use medical terminology.
   a. Demonstrate the use of medical references to spell medical terms correctly.
   b. Spell designated medical terms correctly.
   c. Define and divide medical terms into root words, prefixes, and suffixes.
   d. Interpret the common medical abbreviations and symbols including meanings, and uses.
   e. Demonstrate the use of medical terms and abbreviations in reading, speaking, interpreting, and writing simulated medical records.

   Related Academic Topics (See Appendix A): C1, C4, C5, C6, S1, S8
   Workplace Skills (See Appendix B): WP2, WP4

10. Recognize the structure and functions of each organ system and apply related basic skills.
    a. Interpret the basic organization of the body.
    b. Interpret the basic structures and functions of the integumentary system.
    c. Interpret the basic structures and functions of the musculoskeletal system.
    d. Interpret the basic structures and functions of the circulatory system.
       i. Define, locate, and check the four main vital signs.
    e. Interpret the basic structures and functions of the respiratory system.
    f. Interpret the basic structures and functions of the digestive system.
    g. Interpret the basic structures and functions of the urinary system.
    h. Interpret the basic structures and functions of the nervous system.
    i. Interpret the basic structures and functions of the sensory system.
    j. Interpret the basic structures and functions of the reproductive system.
    k. Interpret the basic structures and functions of the endocrine system.

    Related Academic Topics (See Appendix A): C1, C2, C5, C6, M4, S1, S8
    Workplace Skills (See Appendix B): WP2, WP3, WP4

11. Explain stages of normal growth and development throughout the lifespan.
    a. Recognize the ways in which life stages affect an individual's needs.
    b. Describe the five stages of grief and the role of the health care worker in each stage.
    c. Discuss religious practices associated with health needs throughout the lifespan.
    d. Name two purposes of hospice care.
    e. Define what is meant by the "right to die."
    f. State examples for each of the five basic groups of needs.

g. Relate leading causes of death, diseases, and disabilities to each stage of development.
h. Define euthanasia and discuss the effect of the terminally ill on their survivors.

Related Academic Topics (See Appendix A): C1, C4, C6
Workplace Skills (See Appendix B): WP2, WP6

12. Assess the therapeutic careers by utilizing medical terminology and basic skills in exploring specific therapeutic careers.
Differentiate among three common respiratory treatments including oxygenated and non-oxygenated treatments.
a. Recognize the structures that comprise the respiratory system including upper and lower airway.
b. Define the relationship of respiratory care services to the overall medical organizational structure in a hospital, including scope of services performed.

Related Academic Topics (See Appendix A): C1, C4, C6, S1, S8
Workplace Skills (See Appendix B): WP2, WP3

13. Develop patient contact care skills by utilizing medical terminology and basic skills in a health care setting.
a. Demonstrate how to don and remove sterile gloves using sterile technique.
b. Demonstrate how to open sterile packages without contaminating contents using sterile technique.
c. Prepare a basic sterile dressing tray without contamination using sterile technique.
d. Demonstrate donning and removing isolation mask, eye shields, cap, gown, goggles, and cover shoes according to health care facility policy.
e. Demonstrate double bagging technique and isolation technique according to health care facility policy.
f. Define three general principles of isolation, three purposes of isolation, and five types of isolation according to CDC/OSHA guidelines.

Related Academic Topics (See Appendix A): C1, C2, C4, C6, M4, S1, S8
Workplace Skills (See Appendix B): WP2, WP3, WP6

14. Demonstrate job seeking and job keeping skills.
a. Prepare a resume containing essential information.
b. Complete a job application form.
c. Explain procedures for job interviews.
d. Demonstrate the role of an applicant in a job interview.
e. Describe job interview etiquette.
f. Maintain positive relations with clients and peers.
g. Demonstrate job keeping skills.

Related Academic Topics (See Appendix A): C1, C4, C6
Workplace Skills (See Appendix B): WP2, WP3

SECTION II:

CURRICULUM GUIDE

FOR

RESPIRATORY CARE TECHNOLOGY

RESPIRATORY CARE TECHNOLOGY COURSES

Course Name: Cardiopulmonary Anatomy and Physiology

Course Abbreviation: RCT 1313

Classification: Vocational-Technical Core

Description: This course is a study of cardiopulmonary and renal physiology in relation to the practice of respiratory care. (3 sch: 3 hr. lecture)

Prerequisites: Anatomy and Physiology I and II (BIO 1514, BIO 1524)

Competencies and Suggested Objectives:

1. Explain the anatomy of the respiratory system.
   a. Describe and explain the structures that comprise the upper airway.
   b. Describe and explain the structures that comprise the lower airway.
   c. List and explain the primary functions of the upper airway.
   d. Define the functional unit of the lung.
   e. Define internal and external respiration.
   f. Describe the mechanics of ventilation.
   g. Describe the structures and functions of the external lung and thorax.
   h. Name and define the lung volumes and capacities.
   Related Academic Topics (See Appendix A): C1, C2, C6, S1
   Workplace Skills (See Appendix B): WP2, WP6
2. Describe the physiology of the respiratory system.
   a. Describe oxygen transport.
   b. Describe carbon dioxide transport.
   c. Explain acid base balance.
   d. Interpret clinical acid base status.
   e. Describe neurological control of ventilation.
   Related Academic Topics (See Appendix A): C1, C2, C4, C6, S1, S5
   Workplace Skills (See Appendix B): WP2, WP6
3. Describe the anatomy and physiology of the cardiovascular system.
   a. Identify the structures and functions of the heart.
   b. Distinguish between the normal and abnormal electrocardiogram.
   c. Describe the major components of the blood.
   d. State and assess hemodynamic values.
   e. Identify the structures and functions of the major blood vessels.
   f. Name and explain the major cardiovascular disorders.
   g. Explain the principles of arterial blood sampling.
   Related Academic Topics (See Appendix A): C1, C2, C4, C6, M3, S1
   Workplace Skills (See Appendix B): WP2, WP6

Course Name: Patient Assessment and Planning

Course Abbreviation: RCT 1213

Classification: Vocational-Technical Core

Description: This course is a fundamental approach to subjective and objective evaluation, assessment, and care plan formation for the individual needs of the patient. It is an introduction to cardiopulmonary diseases including etiology, pathophysiology, complications, occurrences, clinical manifestations, treatment, and prevention. (3 sch: 2 hr. lecture, 2 hr. lab)

Prerequisites: None

Competencies and Suggested Objectives:

1. Apply Subjective, Objective, Assessment, Plan (SOAP) principles to develop care plans for patients with cardiopulmonary disorders.
   a. Differentiate between obstructions and restrictive lung disorders.
   b. Discuss the etiology, pathophysiology, clinical manifestations, diagnosis, and treatment of cardiopulmonary diseases and conditions.
   c. Discuss and evaluate pertinent laboratory values.
   d. Perform basic patient assessment skills as related to respiratory care.
   e. Evaluate characteristics of sputum.
   f. Discuss patient care plans.

   Related Academic Topics (See Appendix A): C1, C2, C3, C4, C5, C6,M1, M2, S1, S5

   Workplace Skills (See Appendix B): WP2, WP6

Course Name: Respiratory Care Science

Course Abbreviation: RCT 1114

Classification: Vocational-Technical Core

Description: This course is designed to introduce the student respiratory care practitioner to fundamental elements important to the delivery of health care in a safe, efficient, and professional manner. The holistic approach to patient care will be emphasized. (4 sch: 3 hr. lecture, 2 hr. lab)

Prerequisites: Anatomy and Physiology I and II (BIO 1514, BIO 1524)

Competencies and Suggested Objectives:

1. Discuss aspects of patient safety.
   a. Demonstrate basic life support.
   b. Perform vital signs.
   c. Discuss and demonstrate universal precautions.
   d. Discuss and demonstrate proper body mechanics in regard to patient lifting and transfer.
   e. Discuss fire and electrical safety.
   f. Discuss principles of accident prevention.
   Related Academic Topics (See Appendix A): C1, C2, M1, S1, S8
   Workplace Skills (See Appendix B): WP2
2. Discuss aspects of patient comfort.
   a. Discuss cultural diversity.
   b. Discuss and demonstrate communication skills.
   c. Describe patient management in regard to death and dying.
   d. Discuss pain management.
   e. Discuss the concept and practical application of holistic medicine.
   Related Academic Topics (See Appendix A): C1, C2, C3
   Workplace Skills (See Appendix B): WP2
3. Discuss aspects of health care delivery organizations.
   a. Discuss health care organization.
   b. Discuss health care careers.
   c. Discuss legal aspects of health care.
   d. Describe the various health care organizations.
   e. Discuss the history of respiratory care.
   f. Describe careers in respiratory care.
   g. Describe the organization of a typical respiratory care department.
   h. Discuss health care ethics.
   Related Academic Topics (See Appendix A): C1
   Workplace Skills (See Appendix B): WP2

4. Discuss related medical terminology.
   a. Discuss terms related to anatomy and physiology.
   b. Discuss terms related to human disease.
   c. Discuss terms related to patient assessment and diagnosis.
   d. Discuss terms related to treatment of disease.

   Related Academic Topics (See Appendix A): C1, C2, C5, S1, S7
   Workplace Skills (See Appendix B): WP2
5. Recognize and describe infection control and microbiology.
   a. Describe the characteristics of microorganisms based on the following criteria:
      i. Shape
      ii. Staining properties
      iii. Spore formation
      iv. Mode of transmission
   b. List and describe five types of isolation techniques.
   c. Describe and demonstrate methods of decontamination.
   d. Describe and demonstrate methods of infection control.

   Related Academic Topics (See Appendix A): C1, C2, M1, S1, S2, S3, S7
   Workplace Skills (See Appendix B): WP2
6. Demonstrate mathematics as applied to respiratory care.
   a. Perform metric conversions as related to respiratory care.
   b. Perform decimal and percent conversions as related to respiratory care.
   c. Calculate ratio and proportion as related to respiratory care.
   d. Solve a linear equation as related to respiratory care.
   e. Apply proper order of math function.
   f. Apply graphic interpretation by plotting data on an x-y coordinate axis system.
   g. Perform temperature conversions.

   Related Academic Topics (See Appendix A): C1, M1, M2, M3, M4, M7
   Workplace Skills (See Appendix B): WP2

Course Name: Clinical Practice I

Course Abbreviation: RCT 1516

Classification: Vocational-Technical Core

Description: Patient assessment and care plan formation are presented in the hospital environment. A procedural guide is utilized to evaluate student competencies and performance of respiratory care procedures. (6 sch: 18 hr. clinical)

Prerequisites: Anatomy and Physiology I and II (BIO 1514, BIO 1524), Respiratory Care Science (RCT 1114), Patient Assessment and Planning (RCT 1213), and Cardiopulmonary Anatomy (RCT 1313). Respiratory Care Technology I (RCT 1416) is a corequisite.

Competencies and Suggested Objectives:

1. Perform patient assessment and formulate a care plan.
   a. Perform patient assessment.
   b. Write a care plan for a given patient.
   Related Academic Topics (See Appendix A): C1, C2, C3, C4, C5, C6, M1, S1
   Workplace Skills (See Appendix B): WP2, WP3, WP4, WP5, WP6
2. Perform respiratory care procedures.
   a. Apply Gas Therapy concepts.
   b. Apply Aerosol Humidity Therapy.
   c. Apply hyperinflation techniques.
   d. Demonstrate Cardiopulmonary Resuscitation (CPR).
   e. Demonstrate Chest Physical Therapy (CPT).
   f. Apply airway management techniques.
   g. Apply methods of decontamination.
   h. Demonstrate isolation techniques.
   i. Perform drug administration.
   Related Academic Topics (See Appendix A): C1, C2, C3, C4, C5, C6, M1, S1, S2, S5, S6, S8
   Workplace Skills (See Appendix B): WP2, WP3, WP4, WP5, WP6

Course Name: Respiratory Care Pharmacology

Course Abbreviation: RCT 1612

Classification: Vocational-Technical Core

Description: This course is designed to introduce the student to the pharmacology related to cardiopulmonary disorders. (2 sch: 2 hr. lecture)

Prerequisites: Respiratory Care Science (RCT 1114), Cardiopulmonary Anatomy (RCT 1313), and Patient Assessment and Planning (RCT 1213)

Competencies and Suggested Objectives:

1. Apply the principles of pharmacology to respiratory care.
   a. Calculate drug doses and strengths.
   b. Describe modes of drug administration.
   c. Define drug interaction terms.
   d. Discuss drug metabolism.
   e. Describe modes of drug action.
   f. Discuss precautions of drug administration.
   g. Discuss the mode of action, indications, and adverse effects of related cardiopulmonary drugs.
   h. Describe the response to be taken in the event of adverse reaction to related cardiopulmonary drugs.
   i. Discuss the administration of various types of inhalation drugs.

   Related Academic Topics (See Appendix A): C1, C2, C4, C6, M1, M3, S1, S5
   Workplace Skills (See Appendix B): WP4, WP5, WP6

Course Name: Respiratory Care Technology I

Course Abbreviation: RCT 1416

Classification: Vocational-Technical Core

Description: This course is a study of respiratory treatments and equipment design and operation related to the clinical objectives incorporating airway management, suctioning, and basic life support. (6 sch: 2 hr. lecture, 8 hr. lab)

Prerequisites: None

Competencies and Suggested Student Objectives:

1. Apply gas physics.
   a. Apply the gas laws as related to respiratory care.
   Related Academic Topics (See Appendix A): C1, M1, M3, S5
   Workplace Skills (See Appendix B): WP4, WP5, WP6
2. Apply principles of medical gas therapy to respiratory care.
   a. Describe the manufacture, transport, and storage of medical gases.
   b. Describe and demonstrate the operation of medical gas controlling devices.
   c. Select appropriate oxygen delivery devices.
   d. Name and explain the safety procedures, indications, and hazards of medical gas administration.
   Related Academic Topics (See Appendix A): C1, C5, C6, M1, M3, S6, S8
   Workplace Skills (See Appendix B): WP4, WP5, WP6
3. Apply the principles of aerosol/humidity therapy to respiratory care.
   a. Define humidity and aerosol.
   b. Contrast a nebulizer and humidifier.
   c. State the factors that affect humidity output.
   d. Describe factors that affect aerosol penetration and deposition.
   e. Describe and demonstrate the principles of operation, efficiency, and application of the various types of humidifiers and nebulizers.
   f. Explain the indicators and hazards of aerosol and humidity therapy.
   Related Academic Topics (See Appendix A): C1, C2, M1, S1, S6, S8
   Workplace Skills (See Appendix B): WP4, WP5, WP6
4. Apply principles of hyperinflation to respiratory care.
   a. Compare and contrast the major hyperinflation modalities.
   b. Compare and contrast the goals, indications, and adverse effects of hyperinflation devices.
   c. Describe the principles of operation of hyperinflation devices.
   d. Demonstrate the operation of hyperinflation devices.
   Related Academic Topics (See Appendix A): C1, C2, M1, S1, S8
   Workplace Skills (See Appendix B): WP4, WP5, WP6

5. Apply principles of chest physical therapy to respiratory care.
   a. Identify the bronchopulmonary segments.
   b. Describe the positions required to drain designated lung segments.
   c. Describe the indications and hazards of chest physical therapy.
   d. Perform chest physical therapy modalities.

   Related Academic Topics (See Appendix A): C1, C2, S1, S8
   Workplace Skills (See Appendix B): WP4, WP5, WP6
6. Apply principles of airway care and manual resuscitation.
   a. Maintain certification in Basic Life Support (BLS).
   b. Summarize the etiology of upper airway obstruction.
   c. Discuss the indications, hazards, and selection of artificial airways.
   d. Explain and demonstrate the placement of artificial airways.
   e. Explain and demonstrate techniques to monitor and insure a safe and effective airway.
   f. Compare and contrast characteristics of various manual resuscitators.
   g. Explain and demonstrate the proper use of various manual resuscitators.

   Related Academic Topics (See Appendix A): C1, C2, M1, S1, S2, S8
   Workplace Skills (See Appendix B): WP4, WP5, WP6

Course Name: Clinical Practice II

Course Abbreviation: RCT 1523

Classification: Vocational-Technical Core

Description: In this course, students rotate through various respiratory care sub-specialty areas for evaluation of competency and performance of respiratory care procedures. It is a review of all aspects of respiratory care. (3 sch: 9 hr. clinical)

Prerequisites: Clinical Practice I (RCT 1516)

Competencies and Suggested Objectives:

1. Perform respiratory care procedures.
   a. Perform Pulmonary Function Testing (PFT).
   b. Demonstrate techniques related to Cardiopulmonary Rehabilitation and Home Care.
   c. Demonstrate concepts related to Mechanical Ventilation.
   d. Demonstrate Neonatal and Pediatric modalities.
   e. Demonstrate Arterial Blood Sampling techniques.

   Related Academic Topics (See Appendix A): C1, C2, C3, C4, C5, C6, M1, S1, S2, S5, S8

   Workplace Skills (See Appendix B): WP2, WP3, WP4, WP5, WP6

Course Name: Respiratory Care Technology II

Course Abbreviation: RCT 1424

Classification: Vocational-Technical Core

Description: This course is a continuation of Respiratory Care Technology I. It is a study of respiratory failure, mechanical ventilation, pulmonary rehabilitation, and home care. (4 sch: 3 hr. lecture, 2 hr. lab)

Prerequisites: Respiratory Technology I (RCT 1416)

Competencies and Suggested Objectives:

1. Apply concepts related to rehabilitation and home care.
   a. Discuss the goals and techniques of cardiopulmonary rehabilitation.
   b. Discuss the equipment and techniques of respiratory care in the home.
   Related Academic Topics (See Appendix A): C1, C2, M1, S1, S8
   Workplace Skills (See Appendix B): WP2, WP4, WP5, WP6
2. Apply concepts related to mechanical ventilation.
   a. Classify mechanical ventilators.
   b. Discuss physiologic effects of mechanical ventilation.
   c. Discuss indications and hazards of mechanical ventilation.
   d. Demonstrate and explain the set-up, monitoring, and discontinuation of mechanical ventilation.
   Related Academic Topics (See Appendix A): C1, C2, M1, M2, S1, S5, S6, S8
   Workplace Skills (See Appendix B): WP2, WP4, WP5, WP6

Course Name: Pulmonary Function Testing (PFT)

Course Abbreviation: RCT 1322

Classification: Vocational-Technical Core

Description: This course is an introduction to pulmonary function technique and testing equipment. (2 sch: 1 hr. lecture, 2 hr. lab)

Prerequisites: Cardiopulmonary Anatomy and Physiology (RCT 1313), or instructor approval

Competencies and Suggested Objectives:

1. Determine the basis for the use of cardiopulmonary tests.
   a. Discuss the indications of pulmonary function.
   b. Explain and demonstrate proper procedures for selected pulmonary function testings.
   c. Explain the significance of pulmonary function test findings.
   d. Describe and summarize exercise stress testing.

   Related Academic Topics (See Appendix A): C1, C2, C4, C6, M1, M2, S1, S5, S8

   Workplace Skills (See Appendix B): WP2, WP3, WP4, WP5, WP6
2. Apply principles of pulmonary function tests.
   a. Describe the principles of operation of pulmonary function testing equipment.

   Related Academic Topics (See Appendix A): C1, C2, C5, M1, S8

   Workplace Skills (See Appendix B): WP2, WP3, WP4, WP5, WP6
3. Recognize correct functions of blood gas and pulmonary function equipment.
   a. Maintain and calibrate blood gas instrumentation.
   b. Assemble, check for proper function, and identify malfunction of blood gas equipment.
   c. Assemble, check for proper function, and identify malfunction of pulmonary function equipment.
   d. Take action to correct malfunctions of pulmonary function and blood gas equipment.
   e. Perform quality control procedures relating to blood gas and pulmonary function equipment.

   Related Academic Topics (See Appendix A): C1, C2, C4, C5, C6, M1, M2, M6, S1, S5, S6, S8

   Workplace Skills (See Appendix B): WP2, WP3, WP4, WP5, WP6

Course Name: Respiratory Care Technology III

Course Abbreviation: RCT 2434

Classification: Vocational-Technical Core

Description: This course is a study of respiratory care in the critical care setting. Topics include nonconventional modes of mechanical ventilation, hemodynamics, special procedures, and advanced cardiac life support. (4 sch: 2 hr. lecture, 4 hr. lab)

Prerequisites: Clinical Practice II (RCT 1523)

Competencies and Suggested Objectives:

1. Apply concepts of nonconventional mechanical ventilation.
   a. Describe and monitor the use of nonconventional modes of mechanical ventilation.

   Related Academic Topics (See Appendix A): C1, C2, M1, M2, M3, S1, S5, S6, S8

   Workplace Skills (See Appendix B): WP2, WP4, WP5, WP6
2. Apply concepts to hemodynamics.
   a. Review patient records and recommend diagnostic procedures to obtain additional data.
   b. Collect and evaluate additional pertinent clinical information.
   c. Interpret the results of diagnostic procedures, determine appropriateness of care plan, and recommend modifications.

   Related Academic Topics (See Appendix A): C1, C2, M1, S1, S5, S6, S8

   Workplace Skills (See Appendix B): WP2, WP4, WP5, WP6
3. Describe and apply concepts related to special procedures.
   a. Explain special procedures as described by the National Board for Respiratory Care matrix.

   Related Academic Topics (See Appendix A): C1, C2, M1, S1, S5, S6, S8

   Workplace Skills (See Appendix B): WP2, WP4, WP5, WP6
4. Apply concepts related to advanced life support.
   a. Recognize basic arrhythmias.
   b. Explain and demonstrate a mega code.
   c. Identify arrhythmia and implement algorithms.
   d. Identify and describe the common cardiopulmonary life support drugs.
   e. Describe and demonstrate operation of defibrillation equipment.
   f. Describe and demonstrate intravenous therapy.

g. Describe and demonstrate arterial line therapy to include insertion and maintenance.
h. Describe and demonstrate emergency airway care procedures.

Related Academic Topics (See Appendix A): C1, C2, M1, S1, S5, S6, S8
Workplace Skills (See Appendix B): WP2, WP4, WP5, WP6

Course Name: Cardiopulmonary Pathology

Course Abbreviation: RCT 2333

Classification: Vocational-Technical Core

Description: This course is a study of the cardiopulmonary pathophysiology. It includes etiology, clinical manifestations, diagnostics, and treatment of various cardiopulmonary diseases. Case studies and/or clinical simulations will be utilized to enforce learning and evaluate progress. (3 sch: 3 hr. lecture)

Prerequisites: Cardiopulmonary Anatomy and Physiology (RCT 1313)

Competencies and Suggested Objectives:

1. Apply Subjective, Objective, Assessment, Plan (SOAP) principles to develop care plans for patients with cardiopulmonary disease.
   a. Review patient records and recommend diagnostic procedures to obtain additional data.
   b. Evaluate additional pertinent clinical information.
   c. Interpret results of diagnostic procedures, determine appropriateness of care plan, and recommend modifications.
   d. Recommend diagnostic procedures, interpret results, determine appropriateness of care plan, and recommend modifications.

   Related Academic Topics (See Appendix A): C1, C2, C4, C6, M1, S1, S5, S6, S8

   Workplace Skills (See Appendix B): WP2, WP4, WP5, WP6

Course Name: Clinical Practice III

Course Abbreviation: RCT 2532

Classification: Vocational-Technical Core

Description: In this course, students rotate through various clinical areas for evaluation of competency and performance of respiratory care procedures. (2 sch: 6 hr. clinical)

Prerequisites: Clinical Practice I (RCT 1516) and Clinical Practice II (RCT 1523)

Competencies and Suggested Objectives:

1. Perform respiratory care procedures.
   a. Perform pulmonary function testing.
   b. Evaluate hemodynamic data.
   c. Perform selected nonconventional modes of mechanical ventilation.
   d. Observe and assist in the performance of specific procedures related to respiratory care.

   Related Academic Topics (See Appendix A): C1, C2, C3, C4, C5, C6, M1, M2, M3, S1, S2, S5, S6, S8

   Workplace Skills (See Appendix B): WP2, WP3, WP4, WP5, WP6

Course Name: Respiratory Care Seminar

Course Abbreviation: RCT 2712

Classification: Vocational-Technical Core

Description: This course is designed to integrate the essential elements of respiratory care practice through the use of care plans, case studies, and clinical simulations in a laboratory environment. Students develop an analytical approach to problem solving. Critical thinking is emphasized. (2 sch: 1 hr lecture, 2 hr. lab)

Prerequisites: Clinical Practice II (RCT 1525)

Competencies and Suggested Objectives:

1. Review NBRC entry level exam matrix.
   a. Complete mock exams.
   b. Discuss NBRC exam content.
   c. Discuss test taking strategies.
   Related Academic Topics (See Appendix A): C1 C2, C5, M1, M2, M3, S1, S2, S5, S6, S7, S8
   Workplace Skills (See Appendix B): WP2, WP4, WP5, WP6
2. Review NBRC written registry exam matrix.
   a. Complete mock exams.
   b. Discuss NBRC exam content.
   c. Discuss test taking strategies.
   Related Academic Topics (See Appendix A): C1, C2, C5, M1, M2, M3, S1, S2, S5, S6, S7, S8
   Workplace Skills (See Appendix B): WP2, WP4, WP5, WP6
3. Review clinical simulation exam matrix.
   a. Complete clinical simulation.
   b. Discuss NBRC exam content.
   c. Discuss test taking strategies.
   d. Develop care plans.
   e. Develop case studies.
   f. Critique care plans.
   g. Prioritize patient care decisions.
   h. Judge patient response to therapy.
   i. Modify care plans as needed.
   j. Analyze patient data.
   k. Formulate solutions to patient care problems.
   Related Academic Topics (See Appendix A): C1, C2, C5, M1, M2, M3, S1, S2, S5, S6, S7, S8
   Workplace Skills (See Appendix B): WP2, WP4, WP5, WP6

Course Name: Clinical Practice IV

Course Abbreviation: RCT 2548

Classification: Vocational-Technical Core

Description: This is a continuation of Clinical Practice III. In this course, students rotate through respiratory care specialty areas. A procedural guide is utilized to evaluate student competency and performance. (8 sch: 24 hr. clinical)

Prerequisites: Clinical Practice I (RCT 1516), Clinical Practice II (RCT 1523), Clinical Practice III (RCT 2532)

Competencies and Suggested Objectives:

1. Perform respiratory care procedures.
   a. Perform pulmonary function testing.
   b. Evaluate hemodynamic data.
   c. Perform selected nonconventional modes of mechanical ventilation.
   d. Observe and assist in the performance of specific procedures related to respiratory care.

   Related Academic Topics (See Appendix A): C1, C2, C3, C4, C5, C6, M1, M2, M3, S1, S2, S5, S6, S8

   Workplace Skills (See Appendix B): WP2, WP3, WP4, WP5, WP6
2. Perform neonatal/pediatric respiratory care procedures.
   a. Observe and assist in Neonatal/Pediatrics Management.
   b. Observe and assist in Cardiopulmonary Life Support techniques.
   c. Prepare and present a case presentation based on activities from the specialty area rotation.

   Related Academic Topics (See Appendix A): C1, C2, C3, C4, C5, C6, M1, M2, M3, S1, S2, S5, S6, S8

   Workplace Skills (See Appendix B): WP2, WP3, WP4, WP5, WP6

Course Name: Neonatal/Pediatrics Management

Course Abbreviation: RCT 2613

Classification: Vocational-Technical Core

Description: This course is a study of fetal development and the transition to extrauterine environment. It includes the most common cardiopulmonary birth defects, neonatal and pediatric disease process, and the mode of treatment. (3 sch: 3 hr. lecture)

Prerequisite: Respiratory Care Technology III (RCT 2434)
Corequisite: Clinical Practice IV (RCT 2548)

Competencies and Suggested Objectives:

1. Apply concepts related to neonatal management.
   a. Discuss the process of fetal lung development.
   b. Describe factors contributing to cardiopulmonary transition between fetal and neonatal life.
   c. Describe physical assessment of the neonate.
   d. Describe etiology, pathophysiology, clinical manifestations, diagnosis, and treatment of neonatal cardiopulmonary diseases.
   e. Discuss the indications, the hazards, and equipment related to the treatment of neonatal disorders.

   Related Academic Topics (See Appendix A): C1, C2, M1, M2, M3M S1, S2, S5, S6, S8

   Workplace Skills (See Appendix B): WP2, WP4, WP5, WP6
2. Apply concepts related to pediatric management.
   a. Describe etiology, pathophysiology, clinical manifestations, diagnosis, and treatment of pediatric cardiopulmonary diseases.
   b. Discuss the indications, hazards, and equipment related to the treatment of pediatric disorders.

   Related Academic Topics (See Appendix A): C1, C2, C4, C6, M1, S1, S2, S5, S6, S8

   Workplace Skills (See Appendix B): WP2, WP4, WP5, WP6

RELATED VOCATIONAL-TECHNICAL COURSES

Course Name: Introduction to Computers

Course Abbreviation: CPT 1114

Classification: Vocational-Technical Elective (From Business and Office and Related Technology)

Description: This course is an introduction to information processing concepts and applications including operating systems, word processing, electronic spreadsheets, data management, graphics, and BASIC programming. (4 sch: 2 hr. lecture, 4 hr. lab)

Competencies and Suggested Objectives:

1. Identify the advantages and disadvantages of the computer to individuals and businesses.
2. Identify the roles of and equipment used for input, processing, and output in an information system.
3. Identify common disk operating system procedures and file maintenance problems.
4. Identify terms associated with concepts in information processing.
5. Identify skills associated with information processing.
6. Identify correct safety procedures.
7. Develop keyboarding skills to produce mailable documents.
8. Demonstrate the ability to use a dictionary, word book, and a reference manual, thesaurus, and grammar verification software.
9. Prepare letters using full block and modified block letter styles and prepare envelopes according to U.S. Postal regulations.
10. Create and print mailable document to include:
    a. Page format
        i. Tabs
        ii. Margins and page length
        iii. Line spacing
    b. Input text
        i. Insert text
        ii. Replace text
        iii. Delete text
        iv. Center
        v. Underline
    c. Edit document
        i. Insert/delete a blank line
        ii. Find and replace

iii. Block editing
(1) Copy
(2) Move
(3) Delete
iv. Spell check document
v. Save document
vi. Print document
(1) Print selected text
(2) Print entire document
vii. Get an existing file

11. Complete a files management project on the microcomputer including:
a. Design a file
b. Add forms to the file
c. Edit selected forms
d. Delete selected forms
e. Generate reports
f. Print labels
12. Design and print a database report.
13. Design and print mailing labels on the microcomputer.
14. Use a spreadsheet program to prepare an appropriate template and insert given data for a personal, a business, and an education application including the following features:
a. Column headings
b. Row headings
c. Delete headings
d. Set cell styles
e. Type values in cells
f. Create formulas
g. Recalculate
h. Print
15. Merge a database application and a spreadsheet application with a word processing document.
16. Generate and print graphs from given data.
17. Use available software to input personal, business, and organizational names in proper indexing order and produce an alphabetical list.
18. Write and run a simple program using BASIC statements to include CLS, New, REM, Print, Let, Input, Data, Read, If Then, Go To.
19. Back up and restore files.
20. State the goals of documentation.
21. Describe flow charting concepts.
22. Use directories and sub-directories.
23. Describe the importance of careful formatting.

RELATED ACADEMIC COURSES

Course Name: Anatomy and Physiology I

Course Abbreviation: BIO 1514

Classification: Related Academic

Description: This course is a lecture/laboratory course dealing with the anatomical and physiological study of the human body, particularly the molecular, cellular, tissue, organs, and systems. Each system is considered in detail regarding both structure and function.

Course Name: Principles of Chemistry I

Course Abbreviation: CHE 1314

Classification: Related Academic

Description: This course places emphasis on properties of matter and application of principles. It is primarily for students in pre-nursing, home economics, agriculture, and physical education.

Course Name: Anatomy and Physiology II

Course Abbreviation: BIO 1524

Classification: Related Academic

Description: This is a lecture/laboratory course of the systems listed but not covered in BIO 1514.

Course Name: Principles of Chemistry II

Course Abbreviation: CHE 1324

Classification: Related Academic

Description: This is a continuation of CHE 1314. It places emphasis on systematic semimicro analysis of cations and anions.

Prerequisites: Principles of Chemistry I (CHE 1314)

SECTION III:

RECOMMENDED TOOLS AND EQUIPMENT

RECOMMENDED TOOLS AND EQUIPMENT FOR RESPIRATORY CARE TECHNOLOGY

Capitalized Item(s)

1. Air Compressor, 10-20 PSIG (1 per program)
2. Air Compressor, High Pressure (50 PSIG) (1 per program)
3. Airways, Adult Trach Care Simulator (2 per program)
4. Airways, Cuff Pressure Manometer (1 per 5 students)
5. Airways, Fiberoptic Intubation Laryngoscope (1 per 5 students)
6. Airways, Negative Inspiratory Force Meter (1 per 5 students)
7. Analogs, Mechanical Test Lungs (1 per program)
8. Analogs, Simple Test Lungs (1 per student)
9. Analytical Equipment, Assorted Aneroid (1 per program)
10. Analytical Equipment, Bell Spirometer (1 per program)
11. Analytical Equipment, Calibrated Laboratory Type (1 per program)
12. Analytical Equipment, Calibrated Super Syringe (1 per program)
13. Analytical Equipment, PCO_2 Electrode (1per program)
14. Analytical Equipment, PH Electrode (1 per program)
15. Analytical Equipment, PO_2 Electrode (1 per program)
16. Analytical Equipment, Stopwatches, Fast Sweep (1 per program)
17. Bulk Delivery System Outlets (1 per 3 students)
18. IV Practice Arm (1 per program)
19. Cardiac Monitor with Oscilloscope (1 per program)
20. Cart, E Cylinder (3 per program)
21. Cart, H Cylinder (1 per program)
22. Chest Percussor (1 per 5 students)
23. Dryer, tube (1 per program)
24. Electrocardiograph, 12 Channel (1 per program)
25. Gauges, Bourdon (1 per 5 students)
26. Generator, Downs Flow (1 per program)
27. High Pressure Delivery Tubing (10 air and 10 oxygen per program)
28. Hospital Bed, Electric (1 per program)
29. Humidifiers, Ventilator (5 per program)
30. Humidifiers, Heaters (5 per program)
31. Humidifiers, Heaters (Wrap-Around) (2 per program)
32. Kinetic Flow Tubes (1 per program)
33. Manikins, Adult Intubation (1 per 10 students)
34. Manikin, Adult Intubation, IV Arm, Breath Sounds (1 per program)
35. Manikins, Adult Recording Resuscitation (1 per program)
36. Manikins, Arterial Puncture Arm (Adult) (1 per program)
37. Manikins, Baby Arterial Arm (1 per program)
38. Manikins, Infant Intubation (1 per program)
39. Manikins, Infant Resuscitation (1 per 10 students)

40. Monitor, Apnea (1 per program)
41. Nebulizers, Aerosol, All Purpose (1 per 5 students)
42. Nebulizers, Aerosol, Croup Tent (1 per 10 students)
43. Nebulizers, Aerosol, Hydronamic (1 per program)
44. Nebulizers, Aerosol, Ultrasonic (1 per program)
45. Oxygen Analyzers (Paramagnetic) (1 per program)
46. Oxygen Analyzers (Thermo Conductive) (1 per program)
47. Oxygen Blender (1 per 10 students)
48. Oxygen Concentrator (1 per program)
49. Oxygen Analyzer, Electrochemical Gas (1 per 10 students)
50. Pulse Oximeter (2 per program)
51. Respirometer (1 per 5 students)
52. Resuscitator, Adult Self Inflating (1 per 5 students)
53. Resuscitator, Gas Powered (1 per program)
54. Resuscitator, Pediatric (1 per 5 students)
55. Resuscitator, Neonatal (1 per 5 students)
56. Stethoscope, Doppler (1 per 10 students)
57. Suction Source, Piped Vacuum (1 per program)
58. Suction Source, Portable (1 per program)
59. Thermometer, Electronic, Tympanic (1 per program)
60. Thorpe Tubes, Pressure Compensated (20 per program)
61. Ventilator, Bellows Type Spirometer/Alarm (1 per program)
62. Ventilator, Bi-Pap Unit with Alarm (1 per program)
63. Ventilator, End Tidal CO_2 Monitor/O_2 (1 per program)
64. Ventilator, Volume (5 per program)
65. Ventilator, Neonatal Mechanical (1 per program)
66. Ventilator, Pressure Cycled with Stand (1 per 3 students)
67. Ventilator, Pressure Disconnect Alarm (1 per program)
68. X-ray Viewbox, Large (1 per program)
69. Wheelchair, Standard Adult (1 per program)

Non-Capitalized Equipment:

1. Blankets (bed) (1 per bed)
2. Pillows (1 per bed)
3. Sheets (2 per bed)

INSTRUCTIONAL MATERIALS

1. Cart, AV (4 per program)
2. Computer w/CD ROM update kit (1 per 4 students)
3. Computer w/CD ROM (1 per 4 students)
4. Model, Anatomical, Heart (1 per 10 students)
5. Model, Anatomical, Segmental Lung (1 per 10 students)

6. Model, Anatomical, Skeleton (1 per program)
7. Model, Anatomical, Upper Airway (1 per program)
8. Printer, Laser (1 per 2 computers)
9. Stethoscope, Dual Earpiece Teaching (1 per 10 students)
10. TV (1 per program)
11. Tool Kit (1 per program)
12. VCR (1 per program)
13. Video Camera, VHS (1 per program)
14. Video Screen (1 per program)
15. Slide Carousel (1 per program)
16. ELMO Presentation System (1 per program)
17. Interactive Video System (1 per program)

CD ROM/Interactive Video: (1 of each per program)

Siemen's 900 Ventilator
Bennett 7200 Ventilator
Airway Care
Patient Assessment
Advanced Cardiac Life Support
Emergency Care Procedures

Videos: (1 of each per program)

Vital Signs
Airway Adjuncts
Patient Assessment
Normal/Abnormal Breath Sounds
Heart Sounds
Using Protective Precautions
Using Correct Body Mechanics
Hemodynamic Monitoring Prep. Calib. Insertion
Significance of Measurements, Hemodynamic Monitoring
Troubleshooting, Hemodynamic Monitoring
Hemodynamic Monitoring, System and Instrumentation Operation
Universal Precautions
Tracheostomy Care
Arterial Lines
12 Lead ECG
Endotracheal Tubes
Management of Respiratory Acidosis/Alkalosis
Management of Metabolic Acidosis/Alkalosis
Acid-Base Balance, Data Analysis
Suctioning: Naso-, Oso-, and Endotracheal

Endotracheal Intubation
Weaning and Extubation
Physical Assessment: The Lungs
Physical Assessment: The Heart
Advanced Cardiac Life Support Course
Pediatric Advanced Life Support Course
Acute Respiratory Failure
Anaphylaxis
Arterial Puncture
Exam of the Upper Airways by Bronchoscope
Bronchoscopic Checkpoints
Bronchoscopic Features of Acute Inflammation
Bronchoscopic Features of Carcinoma
Open Heart Surgery
Basic Cardiac Life Support
Basic Venipuncture Technique
Automatic Film Processing
Universal Precautions

IBM/MS-DOS Software: (1 of each per program)

Clinical Simulation: Asthma
Clinical Simulation: Neonate
Clinical Simulation: Pediatric
Clinical Simulation: Emphysema/COPD
Clinical Simulation: Cystic Fibrosis
Clinical Simulation: Airway Trauma
Clinical Simulation: Airway Obstruction
Clinical Simulation: Post-Extubation
Clinical Simulation: ARDS
Clinical Simulation: Pneumothorax
Clinical Simulation: Pneumonia
Clinical Simulation: IRDS
Clinical Simulation: Tuberculosis
Clinical Simulation: Burn Victim
Clinical Simulation: HIV + AIDS
Clinical Simulation: Pneumocystis
Clinical Simulation: Fetal Distress
Clinical Simulation: Pickwickian Syn.
Clinical Simulation: Cab Surgery
Cardiovascular System
Respiratory System
Medical Terminology
Interactive Videodisk Software: Pediatric Procedures Intubation, Thoracentesis

Interactive Videodisk Software: Recognizing Radiographic Artifacts

Suggested References: (1 of each per program)

Physician's Desk Reference
Taber's or Mosby's Medical Dictionary
Equipment Theory for Respiratory Care
Principles of Pharmacology for Respiratory Care
Pulmonary Function Testing
Cardiopulmonary Anatomy and Physiology: Essentials for Respiratory Care
Comprehensive Perinatal and Pediatric Respiratory Care
Entry Level Exam Review for Respiratory Care
Basic Clinical Lab Competencies for Respiratory Care, An Integrated Approach
Respiratory Care Calculations

APPENDIX A:

RELATED ACADEMIC TOPICS

APPENDIX A

RELATED ACADEMIC TOPICS FOR COMMUNICATIONS

C1 Interpret written material.
C2 Interpret visual materials (maps, charts, graphs, tables, etc.).
C3 Listen, comprehend, and take appropriate actions.
C4 Access, organize, and evaluate information.
C5 Use written and/or oral language skills to work cooperatively to solve problems, make decisions, take actions, and reach agreement.
C6 Communicate ideas and information effectively using various oral and written forms for a variety of audiences and purposes.

EXPANDED TOPICS FOR COMMUNICATIONS

TOPIC C1: Interpret written material.

C1.01 Read and follow complex written directions.
C1.02 Recognize common words and meanings associated with a variety of occupations.
C1.03 Adjust reading strategy to purpose and type of reading.
C1.04 Use sections of books and reference sources to obtain information.
C1.05 Compare information from multiple sources and check validity.
C1.06 Interpret items and abbreviations used in multiple forms.
C1.07 Interpret short notes, memos, and letters.
C1.08 Comprehend technical words and concepts.
C1.09 Use various reading techniques depending on purpose for reading.
C1.10 Find, read, understand, and use information from printed matter or electronic sources.

TOPIC C2: Interpret visual materials (maps, charts, graphs, tables, etc.).

C2.01 Use visuals in written and in oral presentations.
C2.02 Recognize visual cues to meaning (layout, typography, etc.).
C2.03 Interpret and apply information using visual materials.

TOPIC C3: Listen, comprehend, and take appropriate action.

C3.01 Identify and evaluate orally-presented messages according to purpose.
C3.02 Recognize barriers to effective listening.
C3.03 Recognize how voice inflection changes meaning.
C3.04 Identify speaker signals requiring a response and respond accordingly.
C3.05 Listen attentively and take accurate notes.
C3.06 Use telephone to receive information.

C3.07 Analyze and distinguish information from formal and informal oral presentations.

TOPIC C4: Access, organize, and evaluate information.

C4.01 Distinguish fact from opinion.
C4.02 Use various print and non-print sources for specialized information.
C4.03 Interpret and distinguish between literal and figurative meaning.
C4.04 Interpret written or oral communication in relation to context and writer's point of view.
C4.05 Use relevant sources to gather information for written or oral communication.

TOPIC C5: Use written and/or oral language skills to work cooperatively to solve problems, make decisions, take actions, and reach agreement.

C5.01 Select appropriate words for communication needs.
C5.02 Use reading, writing, listening, and speaking skills to solve problems.
C5.03 Compose inquiries and requests.
C5.04 Write persuasive letters and memos.
C5.05 Edit written reports, letters, memos, and short notes for clarity, correct grammar, and effective sentences.
C5.06 Write logical and understandable statements, phrases, or sentences for filling out forms, for correspondence or reports.
C5.07 Write directions or summaries of processes, mechanisms, events, or concepts.
C5.08 Select and use appropriate formats for presenting reports.
C5.09 Convey information to audiences in writing.
C5.10 Compose technical reports and correspondence that meet accepted standards for written communications.

TOPIC C6: Communicate ideas and information using oral and written forms for a variety of audiences and purposes.

C6.01 Give complex oral instructions.
C6.02 Describe a business or industrial process/mechanism.
C6.03 Participate effectively in group discussions and decision making.
C6.04 Produce effective oral messages utilizing different media.
C6.05 Explore ideas orally with partners.
C6.06 Participate in conversations by volunteering information when appropriate and asking relevant questions when appropriate.
C6.07 Restate or paraphrase a conversation to confirm one's own understanding.
C6.08 Gather and provide information utilizing different media.

C6.09 Prepare and deliver persuasive, descriptive, and demonstrative oral presentations.

RELATED ACADEMIC TOPICS FOR MATHEMATICS

M1 Relate number relationships, number systems, and number theory.
M2 Explore patterns and functions.
M3 Explore algebraic concepts and processes.
M4 Explore the concepts of measurement.
M5 Explore the geometry of one-, two-, and three-dimensions.
M6 Explore concepts of statistics and probability in real world situations.
M7 Apply mathematical methods, concepts, and properties to solve a variety of real-world problems.

EXPANDED TOPICS FOR MATHEMATICS

TOPIC M1: Relate number relationships, number systems, and number theory.

M1.01 Understand, represent, and use numbers in a variety of equivalent forms (integer, fraction, decimal, percent, exponential, and scientific notation) in real world and mathematical problem situations.
M1.02 Develop number sense for whole numbers, fractions, decimals, integers, and rational numbers.
M1.03 Understand and apply ratios, proportions, and percents in a wide variety of situations.
M1.04 Investigate relationships among fractions, decimals, and percents.
M1.05 Compute with whole numbers, fractions, decimals, integers, and rational numbers.
M1.06 Develop, analyze, and explain procedures for computation and techniques for estimations.
M1.07 Select and use an appropriate method for computing from among mental arithmetic, paper-and-pencil, calculator, and computer methods.
M1.08 Use computation, estimation, and proportions to solve problems.
M1.09 Use estimation to check the reasonableness of results.

TOPIC M2: Explore patterns and functions.

M2.01 Describe, extend, analyze, and create a wide variety of patterns.
M2.02 Describe and represent relationships with tables, graphs, and rules.
M2.03 Analyze functional relationships to explain how a change in one quantity results in a change in another.
M2.04 Use patterns and functions to represent and solve problems.
M2.05 Explore problems and describe results using graphical, numerical, physical, algebraic, and verbal mathematical models or representations.

M2.06 Use a mathematical idea to further their understanding of other mathematical ideas.
M2.07 Apply mathematical thinking and modeling to solve problems that arise in other disciplines, such as art, music, and business.

TOPIC M3: Explore algebraic concepts and processes.

M3.01 Represent situations and explore the interrelationships of number patterns with tables, graphs, verbal rules, and equations.
M3.02 Analyze tables and graphs to identify properties and relationships and to interpret expressions and equations.
M3.03 Apply algebraic methods to solve a variety of real world and mathematical problems.

TOPIC M4: Explore the concepts of measurement.

M4.01 Estimate, make,and use measurements to describe and compare phenomena.
M4.02 Select appropriate units and tools to measure to the degree of accuracy required in a particular situation.
M4.03 Extend understanding of the concepts of perimeter, area, volume, angle measure, capacity, and weight and mass.
M4.04 Understand and apply reasoning processes, with special attention to spatial reasoning and reasoning with proportions and graphs.

TOPIC M5: Explore the geometry of one-, two-, and three-dimensions.

M5.01 Identify, describe, compare, and classify geometric figures.
M5.02 Visualize and represent geometric figures with special attention to developing spatial sense.
M5.03 Explore transformations of geometric figures.
M5.04 Understand and apply geometric properties and relationships.
M5.05 Classify figures in terms of congruence and similarity and apply these relationships.

TOPIC M6: Explore the concepts of statistics and probability in real world situations.

M6.01 Systematically collect, organize, and describe data.
M6.02 Construct, read, and interpret tables, charts, and graphs.
M6.03 Develop an appreciation for statistical methods as powerful means for decision making.
M6.04 Make predictions that are based on exponential or theoretical probabilities.

M6.05 Develop an appreciation for the pervasive use of probability in the real world.

TOPIC M7: Apply mathematical methods, concepts, and properties to solve a variety of real-world problems.

M7.01 Use computers and/or calculators to process information for all mathematical situations.
M7.02 Use problem-solving approaches to investigate and understand mathematical content.
M7.03 Formulate problems from situations within and outside mathematics.
M7.04 Generalize solutions and strategies to new problem situations.

RELATED ACADEMIC TOPICS FOR SCIENCE

S1 Explain the Anatomy and Physiology of the human body.
S2 Apply the basic biological principles of Plants, Viruses and Monerans, Algae, Protista, and Fungi.
S3 Relate the nine major phyla of the kingdom animalia according to morphology, anatomy, and physiology.
S4 Explore the chemical and physical properties of the earth to include Geology, Meteorology, Oceanography, and the Hydrologic Cycle.
S5 Investigate the properties and reactions of matter to include symbols, formulas and nomenclature, chemical equations, gas laws, chemical bonding, acid-base reactions, equilibrium, oxidation-reduction, nuclear chemistry, and organic chemistry.
S6 Explore the principles and theories related to motion, mechanics, electricity, magnetism, light energy, thermal energy, wave energy, and nuclear physics.
S7 Explore the principles of genetic and molecular Biology to include the relationship between traits and patterns of inheritance, population genetics, the structure and function of DNA, and current applications of DNA technology.
S8 Apply concepts related to the scientific process and method to include safety procedures for classroom and laboratory; use and care of scientific equipment; interrelationships between science, technology and society; and effective communication of scientific results in oral, written, and graphic form.

EXPANDED TOPICS FOR SCIENCE

TOPIC S1: Explain the Anatomy and Physiology of the human body.

S1.01 Recognize common terminology and meanings.
S1.02 Explore the relationship of the cell to more complex systems within the body.

S1.03 Summarize the functional anatomy of all the major body systems.
S1.04 Relate the physiology of the major body systems to its corresponding anatomy.
S1.05 Compare and contrast disease transmission and treatment within each organ system.
S1.06 Explore the usage of medical technology as related to human organs and organ systems.
S1.07 Explain the chemical composition of body tissue.

TOPIC S2: Apply the basic biological principles of Plants, Viruses and Monerans, Algae, Protista, and Fungi.

S2.01 Identify the major types and structures of plants, viruses, monera, algae protista, and fungi.
S2.02 Explain sexual and asexual reproduction.
S2.03 Describe the ecological importance of plants as related to the environment.
S2.04 Analyze the physical chemical and behavioral process of a plant.

TOPIC S3: Relate the nine major phyla of the kingdom animalia according to morphology, anatomy, and physiology.

S3.01 Explain the morphology, anatomy, and physiology of animals.
S3.02 Describe the characteristics, behaviors, and habitats of selected animals.

TOPIC S4: Explore the chemical and physical properties of the earth to include Geology, Meteorology, Oceanography, and the Hydrologic Cycle.

S4.01 Examine minerals and their identification, products of the rock cycle, byproducts of weathering, and the effects of erosion.
S4.02 Relate the Hydrologic Cycle to include groundwater its zones, movement, and composition; surface water systems, deposits, and runoff.
S4.03 Consider the effects of weather and climate on the environment.
S4.04 Examine the composition of seawater; wave, tides, and currents; organisms, environment, and production of food; energy, food and mineral resources of the oceans.

TOPIC S5: Investigate the properties and reactions of matter to include symbols, formulas and nomenclature, chemical equations, gas laws, chemical bonding, acid-base reactions, equilibrium, oxidation-reduction, nuclear chemistry, and organic chemistry.

S5.01 Examine the science of chemistry to include the nature of matter, symbols, formulas and nomenclature, and chemical equations.

S5.02 Identify chemical reactions including precipitation, acids-bases, and reduction-oxidation.
S5.03 Explore the fundamentals of chemical bonding and principles of equilibrium.
S5.04 Relate the behavior of gases.
S5.05 Investigate the structure, reactions, and uses of organic compounds; and investigate nuclear chemistry and radiochemistry.

TOPIC S6: Explore the principles and theories related to motion, mechanics, electricity, magnetism, light energy, thermal energy, wave energy, and nuclear physics.

S6.01 Examine fundamentals of motion of physical bodies and physical dynamics.
S6.02 Explore the concepts and relationships among work, power, and energy.
S6.03 Explore principles, characteristics, and properties of electricity, magnetism, light energy, thermal energy, and wave energy.
S6.04 Identify principles of modern physics related to nuclear physics.

TOPIC S7: Explore the principles of genetic and molecular Biology to include the relationship between traits and patterns of inheritance; population genetics, the structure and function of DNA, and current applications of DNA technology.

S7.01 Examine principles, techniques, and patterns of traits and inheritance in organisms.
S7.02 Apply the concept of population genetics to both microbial and multicellular organism.
S7.03 Identify the structure and function of DNA and the uses of DNA technology in science, industry, and society.

TOPIC S8: Apply concepts related to the scientific process and method to include safety procedures for classroom and laboratory; use and care of scientific equipment; interrelationships between science, technology and society; and effective communication of scientific results in oral, written, and graphic form.

S8.01 Apply the components of scientific processes and methods in classroom and laboratory investigations.
S8.02 Observe and practice safe procedures in the classroom and laboratory.
S8.03 Demonstrate proper use and care for scientific equipment.
S8.04 Investigate science careers, and advances in technology.
S8.05 Communicate results of scientific investigations in oral, written, and graphic form.

APPENDIX B:

WORKPLACE SKILLS

APPENDIX B
WORKPLACE SKILLS FOR THE 21ST CENTURY

WP1 Allocates resources (time, money, materials and facilities, and human resources).

WP2 Acquires, evaluates, organizes and maintains, and interprets/communicates information, including the use of computers.

WP3 Practices interpersonal skills related to careers including team member participation, teaching other people, serving clients/customers, exercising leadership, negotiation, and working with culturally diverse.

WP4 Applies systems concept including basic understanding, monitoring and correction system performance, and designing and improving systems.

WP5 Selects, applies, and maintains/troubleshoots technology.

WP6 Employs thinking skills including creative thinking, decision making, problem solving, reasoning, and knowing how to learn.

APPENDIX C:

STUDENT COMPETENCY PROFILE

STUDENT COMPETENCY PROFILE

Student: _____

This record is intended to serve as a method of noting student achievement of the competencies in each course. It can be duplicated for each student and serve as a cumulative record of competencies achieved in the program

In the blank before each competency, place the date on which the student mastered the competency.

Cardiopulmonary Anatomy and Physiology (RCT 1313)

_____ 1. Explain the anatomy of the respiratory system.
_____ 2. Describe the physiology of the respiratory system.
_____ 3. Describe the anatomy and physiology of the cardiovascular system.

Patient Assessment and Planning (RCT 1213)

_____ 1. Apply Subjective, Objective, Assessment, Plan (SOAP) principles to develop care plans for patients with cardiopulmonary disorders.

Respiratory Care Science (RCT 1114)

_____ 1. Discuss aspects of patient safety.
_____ 2. Discuss aspects of patient comfort.
_____ 3. Discuss aspects of health care delivery organizations.
_____ 4. Discuss related medical terminology.
_____ 5. Recognize and describe infection control and microbiology.
_____ 6. Demonstrate mathematics as applied to respiratory care.

Clinical Practice I (RCT 1516)

_____ 1. Perform patient assessment and formulate a care plan.
_____ 2. Perform respiratory care procedures.

Respiratory Care Pharmacology (RCT 1612)

_____ 1. Apply the principles of pharmacology to respiratory care.

Respiratory Care Technology I (RCT 1416)

_____ 1. Apply gas physics.
_____ 2. Apply principles of medical gas therapy to respiratory care.
_____ 3. Apply the principles of aerosol/humidity therapy to respiratory care.
_____ 4. Apply principles of hyperinflation to respiratory care.
_____ 5. Apply principles of chest physical therapy to respiratory care.
_____ 6. Apply principles of airway care and manual resuscitation.

Clinical Practice II (RCT 1523)

_____ 1. Perform respiratory care procedures.

Respiratory Care Technology II (RCT 1424)

_____ 1. Apply concepts related to rehabilitation and home care.
_____ 2. Apply concepts related to mechanical ventilation.

Pulmonary Function Testing (PFT) (RCT 1322)

_____ 1. Determine the basis for the use of cardiopulmonary tests.
_____ 2. Apply principles of pulmonary function tests.
_____ 3. Recognize correct functions of blood gas and pulmonary function equipment.

Respiratory Care Technology III (RCT 2434)

_____ 1. Apply concepts of nonconventional mechanical ventilation.
_____ 2. Apply concepts to hemodynamics.
_____ 3. Describe and apply concepts related to special procedures.
_____ 4. Apply concepts related to advanced life support.

Cardiopulmonary Pathology (RCT 2333)

_____ 1. Apply Subjective, Objective, Assessment, Plan (SOAP) principles to develop care plans for patients with cardiopulmonary disease.

Clinical Practice III (RCT 2532)

_____ 1. Perform respiratory care procedures.

Respiratory Care Seminar (RCT 2712)

_____ 1. Review NBRC entry level exam matrix.
_____ 2. Review NBRC written registry exam matrix.
_____ 3. Review clinical simulation exam matrix.

Clinical Practice IV (RCT 2548)

_____ 1. Perform respiratory care procedures.
_____ 2. Perform neonatal/pediatric respiratory care procedures.

Neonatal/Pediatrics Management (RCT 2613)

_____ 1. Apply concepts related to neonatal management.
_____ 2. Apply concepts related to pediatric management.